LAW OFFICES
BLOOSTON, MORDKOFSKY, DICKENS, DUFFY & PRENDERGAST, LLP
2120 L STREET, NW
WASHINGTON, DC 20037

(202) 659-0830
FACSIMILE: (202) 828-5568

BENJAMIN H. DICKENS, JR.
JOHN A. PRENDERGAST
GERARD J. DUFFY
RICHARD D. RUBINO
MARY J. SISAK
D. CARY MITCHELL
SALVATORE TAILLEFER, JR.

ARTHUR BLOOSTON
1914 – 1999

AFFILIATED SOUTH AMERICAN OFFICES
ESTUDIO JAUREGUI & ASSOCIATES
BUENOS AIRES, ARGENTINA

HAROLD MORDKOFSKY
OF COUNSEL

EUGENE MALISZEWSKYJ
ENGINEERING CONSULTANT

July 25, 2017

WRITER'S CONTACT INFORMATION
(202) 828-5538
cary@bloostonlaw.com

Via ECFS

Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

Re: Manti Tele Communications Company, Inc.
Initial Implementation Plan and First Progress Report
E911 Location Accuracy, PS Docket No. 07-114

Dear Ms. Dortch:

Pursuant to Section 20.18(i)(4)(i) and (ii) of the Commission's Rules, Manti Tele Communications Company, Inc. ("Manti") hereby submits its initial implementation plan and first progress report on implementation of indoor location accuracy improvements.

Please contact the undersigned counsel should you have any questions.

Very truly yours,

D. Cary Mitchell
Its Counsel

Manti Tele Communications Company, Inc.

Initial Implementation Plan and First Progress Report For Implementing Indoor Wireless E911 Location Accuracy Requirements

Introduction

Manti Tele Communications Company ("Manti" or "the Company") is Tier III CMRS service provider in rural Utah that is a close affiliate of Manti Telephone Company, a family-owned local exchange company in Manti, Utah. Manti participates in a switch sharing arrangement operated in Roosevelt, Utah, by Rural Independent Network Alliance, LLC ("RINA"), and it provides service under the name Breakaway Wireless. In this document Manti describes its Implementation Plan (the "Plan") and First Progress Report (the "Report") toward meeting the extended location accuracy benchmarks for indoor 9-1-1 calls that the Federal Communications Commission ("FCC" or "Commission") adopted in its *Fourth Report and Order* on Wireless E911 Location Accuracy Requirements (the "*Fourth R&O*").[1]

Manti provides CMRS service in Sanpete County, Utah. As of the date of this Report, no Public Safety Answering Points ("PSAPs") with responsibility for Manti's service area have requested that the Company provide Phase II Enhanced 911 ("E911") service. As a result, Manti has neither procured nor installed the equipment and services necessary to generate Phase II Automatic Location Information ("ALI") or indoor location data, and we have filed with the FCC a request for temporary waiver of the Commission's indoor accuracy provisions and related reporting requirements.[2] As of the date of this report, our waiver request remains pending.

RINA's switching facilities have already been upgraded to provide E911 service and Manti is prepared to install appropriate network equipment and deliver Phase II location and indoor location data in accordance with the Commission's Rules upon receipt of a valid PSAP request. Without prejudice to its pending waiver request, Manti provides this Plan and Report to demonstrate the Company's awareness of and commitment to meeting the Commission's wireless E911 indoor location accuracy requirements once a PSAP or appropriate local emergency authority in the Company's service area is capable of utilizing such data and submits a formal request.

Indoor Location Requirements

In the *Fourth R&O*, the FCC adopted rules to improve indoor location accuracy by requiring CMRS providers to meet wireless 911 location accuracy metrics at periodic benchmarks. The substantive requirements are summarized below, and inform our company's Implementation Plan.

Horizontal Location

With respect to horizontal location, the Commission's rules require non-nationwide CMRS providers to provide (1) dispatchable location, or (2) x/y (horizontal) location within 50 meters, for the following

---

1 Wireless E911 Location Accuracy Requirements, *Fourth Report and Order*, PS Docket No. 07-114, 30 FCC Rcd 1259 (2015) (*Fourth R&O*) and rules 47 C.F.R. § 20.18(i) et seq.

2 *See* Petition for Temporary Waiver of Manti Tele Communications Company, Inc., PS Docket No. 07-114, *filed* May 27, 2017 ("*Petition for Waiver*").

percentages of wireless 911 calls within the following timeframes (measured from the **April 3, 2015** Effective Date of rules adopted in the *Fourth Report and Order*):

- Within 2 years (2017): 40 percent of all wireless 911 calls.
- Within 3 years (2018): 50 percent of all wireless 911 calls.
- Within 5 years (2020*): 70 percent of all wireless 911 calls.
- Within 6 years (2021*): 80 percent of all wireless 911 calls.

* NOTE: Regional, small, and rural providers are permitted extend the five and six-year deadlines based on the timing of VoLTE deployment in their networks.

Vertical Location

With respect to vertical location, the Commission's rules require non-nationwide CMRS providers to meet the following requirements:

- Within 3 years of the August 3, 2015 effective date, all CMRS providers must make uncompensated barometric data available to PSAPs from any handset that has the capability to deliver barometric sensor data.
- Within 6 years, nationwide CMRS provides must deploy either (1) dispatchable location, or (2) z-axis technology that achieves the Commission-approved z-axis metric, in each of the top 25 CMAs:
    - The National Emergency Address Database (NEAD) must be populated with a total number of dispatchable location reference points in the CMA equal to 25 percent of the CMA population if dispatchable location is used.
    - CMRS providers must deploy z-axis technology to cover 80 percent of the CMA population if z-axis technology is used.
- Within 8 years, nationwide CMRS providers must deploy dispatchable location or z-axis technology in accordance with the above benchmarks in each of the top 50 CMAs.

Filer's status: Since Manti does not currently provide service in any of the top 50 CMAs, our company does not have any obligation to meet the dispatchable location or z-axis metric vertical location benchmarks. We expect that the E911 Phase II and indoor location solution that we implement will make uncompensated barometric data available to PSAPs from any handset that has the capability to deliver barometric sensor data.

Live 911 Call Data Reports

Quarterly reporting of live 911 data will begin no later than 18 months from the date the rules become effective (*i.e.*, February 3, 2017); CMRS providers will also provide quarterly live call data on a more granular basis that allows evaluation of the performance of individual location technologies within different morphologies (e.g., dense urban, urban, suburban, rural). Non-nationwide carriers report their

aggregate live 911 call data on a semi-annual basis. Non-nationwide CMRS providers must file reports every six months for the prior two calendar-year quarters, with each report due on the first business day of the second month after the six-month period for which data is reported. *See* Public Safety and Homeland Security Bureau Provides Guidance to CMRS Providers Regarding Submission of Periodic E911 Location Accuracy Live Call Data Reports, *Public Notice* DA 17-82.

Filer's Implementation Plan

Our company's Implementation Plan for meeting the Commission's extended location accuracy benchmarks for indoor 9-1-1 calls as adopted in the *Fourth R&O* has been developed in conjunction with West as the E911 technology solution and service provider to RINA and its switch sharing partners. As a very small Tier III service provider, Manti does not have the resources to participate in the standards and technology development process in the same way as Tier I and many Tier II companies, and we must rely on service providers such as West to develop, test and implement solutions that are consistent with industry standards and that allow us to timely meet the Commission's E911 and indoor location benchmarks. An executive summary of West's Location Performance Management (LPM) suite of services is attached below and is offered as a description of capabilities that are, or that at an appropriate time will be, enabled in our company's network. Representatives of West (formerly known as Intrado, Inc.) have been involved in the implementation of the indoor 9-1-1 location accuracy test bed to evaluate location technologies and to assist equipment vendors, carriers and other stakeholders in determining compliance of the indoor test bed methodology. The wireless industry's 911 Location Accuracy Technologies Test Bed (Test Bed) LLC is actively evaluating 911 location accuracy solutions from wireless carriers and technology vendors in accordance with FCC rules and Alliance for Telecommunications Industry Solutions (ATIS) standards. Last fall, the 911 National Emergency Address Database (NEAD) LLC, an independent entity established by CTIA to implement a national database of access point (e.g., Wi-Fi hotspot) and beacon (e.g., Bluetooth Low Energy) location information, selected West to develop and operate the NEAD Platform. With a NEAD operator in place, the wireless industry remains on schedule to enhance indoor 911 location accuracy by harnessing commercial technologies.

Upon receipt of a valid PSAP request, Manti shall implement E911 service and provide indoor location data in accordance with the Commission's Rules, including submission of periodic reports and compliance certifications to the FCC, including:

- Live 911 Call Data Reports - §20.18 (i)(3)(ii)
- Horizontal Location - §20.18 (i)(2)(i)
- Vertical Location - §20.18 (i)(2)(ii)
- Plans and Reports filed in PS Docket No. 07-114 - §20.18 (i)(4)(i)
- Additional Reporting/Compliance – as necessary or upon PSAP request:

Latency: As of April 3, 2015, for purposes of measuring compliance with the location accuracy standards, a call will be deemed to satisfy the standard only if it provides the specified degree of location accuracy within a maximum latency period of 30 seconds, as measured from the time the user initiates the 911 call to the time the location fix appears t the location information center. [47 C.F.R. §20.18(h)(3)]].

Confidence and Uncertainty Data ("C/U Data"): Upon a PSAP request, providers must submit for all wireless 911 calls (indoor/outdoor), x- and y-axis confidence and uncertainty information on a per-call basis, with a confidence level of 90%.

Provision of Live 911 Call Data for PSAPs: CMRS providers must record tracking data on all live 911 calls (including the positioning source method used to provide a location fix), along with the confidence and uncertainty data, which must be made available to PSAPs upon request and must be retained for 2 years. This requirement is separate from, and in addition to, the provisions for recurring reporting, as mentioned above. [47 C.F.R. §20.18(k)].

First Progress Report

As noted above, Manti has not yet received a valid request for E911 service and it has not used its limited resources to procure and install/implement the necessary equipment and services necessary to generate Phase II ALI or indoor location data in the absence of a capable PSAP. Upon receipt of a valid PSAP request, Manti will enter into a E911 Phase II service arrangement with an appropriate vendor (*e.g.*, West Security Services) and deliver Phase II and indoor location data to the requesting PSAP.

Please direct any questions concerning this report to our counsel, Mr. Cary Mitchell, of the law firm of Blooston Mordkofsky Dickens Duffy & Prendergast, LLP. He can be reached by telephone at (202) 828-5538, or by email at cary@bloostonlaw.com.

7-21-17
Dated

Dallas Cox

Manti Tele Communications Company, Inc.
40 West Union
Manti, UT 84642

Location Performance Management (LPM) Executive Summary

Location Performance Management (LPM) Executive Summary

Location Performance Management (LPM) compiles and aggregates complex data sets to help proactively manage and report on location accuracy and network performance. LPM arms the carriers with key insights to help manage emergency 9-1-1 call locations so it is easier to identify areas for improvement.

With LPM, carriers can optimize their network to its highest accuracy and fastest time-to-first-location fix available and report accuracy compliance with the FCC's requirements.

There are two main modules to LPM: 1. PERFORMANCE MONITORING TOOL (PMT), and 2. ACCURACY ANALYSIS REPORTING (AAR)

LPM'S PERFORMANCE MONITORING TOOL provides a set features that enables the user to perform the following:

- Pinpointing location performance issues
- Optimizing network functionality to certify and trust location performance
- Performing proactive risk management of position determination issues
- Providing reports that allow for Auditing KPIs, call results, and analyzing location server performance

LPM'S ACCURACY ANALYSIS REPORTING provides a suite of reports that enables the user to perform the following:

- Reporting compliance with the FCC's location accuracy rules (Drive testing calls are needed to do this)
- Increasing location accuracy across your network
- Generating visual, data-rich, customizable reports
- Measuring baseline accuracy results in test areas

Aside from features stated above, West's Location Performance Management (LPM) tool suite also supports mobile wireless network optimization and provides reporting data for Phase II Location Accuracy requirements set forth by Federal Communications Commission (FCC) Fourth Report and Order on E9-1-1 Location Accuracy Requirements.[1]

The West LPM solution utilizes data from a carrier's network to generate the following reports:

- **Live Call Data Report** – This report is provided on semi-annual basis and provides the Live Call Data yields by technology and morphology for any reporting county identified by the carrier.

- **50m Accuracy Report** – This report provides data for the largest county in a carrier's wireless network footprint. Additionally, this report weights the Indoor Test Bed data derived from Test Bed, LLC against a carrier's live 9-1-1 call distribution within the reporting area to determine a final location accuracy metric.

---

[1] PS Docket No. 07-114, Wireless E911 Location Accuracy Requirements, Fourth Report & Order.

- **PSAP Report** – This Report provides the total number of calls delivered to a specific Public Safety Answering Point (PSAP) and is can be generated on demand for a given period as needed.

The data compiled by West is consistent with the methodology described in the February 7, 2014 Alliance for Telecommunications Industry Solutions (ATIS) Document, "Considerations in Selecting Indoor Test Regions," for testing of indoor location technologies, and further described in the June 2016 ATIS Standard 0500031 on Test Bed and Monitoring Regions Definition and Methodology.